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Human settlements

Progress in meeting the goals, targets and commitments of Agenda 21, the Programme for the Further Implementation of Agenda 21 and the Johannesburg Plan of Implementation

Report of the Secretary-General

Summary

In the Plan of Implementation of the World Summit on Sustainable Development (Johannesburg Plan of Implementation) and the Rio process, consideration of human settlements focuses on slum improvement, improving access to shelter and public services, municipal waste management systems, improving environmental health conditions, developing sustainable transportation systems and improving economic opportunities, particularly for the urban poor. In the coming decades, almost all of the global population growth will occur in the cities of the developing world and unless Governments take decisive action to encourage expansion of formal low-cost housing developments, most of that growth will be in slum areas. Policies towards informal settlements and other slums have, in recent years, focused increasingly on slum upgrading, with support for land title regularization and greater tenure security.

Access to affordable land can pose a serious obstacle to shelter provision for the poor. Public development corporations can play a useful role in planning ahead for land acquisition to build low-cost housing. Rental housing can be an important complement to owner-occupied dwellings, especially for low-income households at

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certain stages of their life cycles. Government housing subsidies will also continue to play a role, though their reach is often limited. For the poor, who are largely excluded from formal credit markets, microfinance can — and to some extent already does — play a role in supporting incremental improvements to their dwellings, including through investments in water and sanitation.

Access to affordable electricity, communications and public transport and support for microenterprises are critical for improving economic opportunities and integrating slum dwellers into the wider urban economy. Adequate provision for the handling, disposal and/or recycling of solid, including hazardous, waste is needed to minimize risk of disease and serious accident, to which slum communities are often most exposed. They are also especially vulnerable to natural disasters.

There remains a dual challenge: to improve the living conditions of the estimated 900 million people currently living in slums, while anticipating the need to shelter adequately the many million more low-income households that will be formed in or move to the cities and urban periphery of the developing world over the next few decades.

Contents

		Paragraphs	*Page*
I.	Background	1–3	3
II.	Introduction	4–8	4
III.	Sustainable development of human settlements	9–53	5
	A. Improving the lives of slum dwellers	9–13	5
	B. Adequate shelter for all	14–23	6
	C. Access to land and land use planning	24–30	9
	D. Provision of services and infrastructure	31–46	11
	1. Access to energy	33–34	12
	2. Solid waste management	35–41	12
	3. Implementing sustainable transport solutions	42–46	14
	E. Employment creation and enterprise promotion	47–49	15
	F. Human settlement development in disaster-prone areas	50–53	16
IV.	Means of implementation	54–70	17
	A. Finance	54–65	17
	B. Decentralization in decision-making, participation and capacity-building	66–70	20
V.	Lessons learned and continuing challenges	71–85	21

I. Background

1. The present report reviews the state of implementation of human settlement goals and targets in Agenda 21,[1] the Programme for the Further Implementation of Agenda 21[2] and the Plan of Implementation of the World Summit on Sustainable Development (Johannesburg Plan of Implementation).[3] It analyses constraints and obstacles encountered in the implementation of these goals and targets in region-specific settings and identifies continuing challenges. The report, in particular, focuses on progress in the implementation of the following goals, targets and commitments:

(a) By 2020, achieve a significant improvement in the lives of at least 100 million slum dwellers (a Millennium Development Goal reaffirmed in Johannesburg);

(b) Improve access to adequate shelter and services, including water and sanitation, as well as land and property;

(c) Promote an integrated approach to transport services and systems;

(d) Develop waste management systems, with the highest priority placed on reduction, reuse and recycling;

(e) Reduce respiratory diseases and other impacts on health resulting from air pollution;

(f) Increase decent employment, credit and income for the urban poor;

(g) Strengthen implementation through mobilization and effective use of financial resources and human capacities;

(h) Strengthen institutional arrangements and governance.

2. Data and information from the following sources were used in the preparation of the report:

(a) Country reports and national assessments submitted by Governments to the secretariat of the Commission on Sustainable Development;

(b) Reports prepared by the United Nations Centre for Human Settlements (UN-Habitat) on human settlements;

(c) Contributions from the Food and Agriculture Organization of the United Nations (FAO), the International Labour Organization (ILO), the United Nations Development Programme (UNDP), the World Health Organization (WHO) and the secretariat of the International Strategy for Disaster Reduction;

(d) Regional reports submitted by the Economic Commission for Africa (ECA), the Economic Commission for Latin America and the Caribbean (ECLAC), the Economic and Social Commission for Western Asia (ESCWA), the Economic and Social Commission for Asia and the Pacific (ESCAP) and the Economic Commission for Europe (ECE);

(e) The synthesis report of the three regional meetings on the small island developing State in preparation for the 10-year review of the Barbados Programme of Action.[4]

3. While the report includes reference to access to water and sanitation, these issues are not reviewed in detail here as they are addressed in the reports of the Secretary-General on water and on sanitation for the twelfth session of the Commission. Also, while the section on solid waste management makes reference to toxic chemicals and hazardous wastes, those issues are reviewed in more detail in the overview report for the Commission.

II. Introduction

4. Issues relating to the sustainable development of human settlements cut across the whole spectrum of social, economic and environmental issues of sustainable development. Improving human settlements and providing adequate shelter, infrastructure and services for all, with particular attention to improving the lives of slum dwellers, calls for an integrated approach. Improvements in human settlements will depend on, and support, progress in reducing poverty, achieving sustained economic growth and protecting the environment. Such synergies and interlinkages underscore the need for pursuing shelter strategies and slum upgrading policies within the overarching framework of sustainable development.

5. Current trends in urbanization and slum growth underline the critical importance of urban development to sustainable development and poverty reduction in the coming decades. World population is projected to increase by 2 billion people over the next 30 years, and virtually all of this population growth will occur in urban areas of developing countries.[5] Without major changes in current trends, about half of the additional population growth will occur in the urban slums of the developing world, increasing their population to about 2 billion. In South Asia and sub-Saharan Africa, the majority of the urban population currently lives in slums.[6] In the past three years alone, the number of slum dwellers in the developing world has increased by some 70 million.

6. The rapid rise in the number of slum dwellers in the developing world is attributable to both high natural population growth and rural-to-urban migration, propelled by a combination of social, economic and environmental factors. For the rural poor, cities offer opportunities for higher-paying jobs, better services, and an escape from rural poverty. In some parts of the world, notably sub-Saharan Africa, armed conflicts, land degradation and depletion of natural resources are important contributing factors.[7]

7. The rise in slum populations has put the meagre resources of municipal governments under further strain. Urban infrastructure and services have not kept up with the growing populations, leading to an across-the-board overburdening of existing infrastructure. With the rapid spread of informal settlements, often located at the urban periphery, has come a host of urban social problems, including growing unemployment, crime and domestic violence.

8. Improving the lives of slum dwellers requires an integrated approach to address rural and urban poverty as well as the complex contributing factors. Persistent poverty in rural areas continues to drive rural-to-urban migration, indicating that the conditions of life in rural communities, and the linkages between urban and rural populations, should also be addressed as part of strategies for the development of human settlements.

III. Sustainable development of human settlements

A. Improving the lives of slum dwellers

9. Slums, whether run-down inner-city neighbourhoods or peri-urban squatter areas or shantytowns, are characterized by sub-standard housing, overcrowding, insecure tenure and lack of basic services such as safe water, improved sanitation, transportation and electricity.[8] Slums are concrete manifestations of urban poverty and social exclusion. According to UN-Habitat, 32 per cent of the world's urban population currently lives in slum settlements — a total of 924 million people (see table below). While the slum population constitutes 6 per cent of the urban population in developed regions, it makes up 43 per cent in developing regions and 78 per cent in the least developed countries. Assuming no major departure from recent trends, the number of slum dwellers worldwide is projected to rise over the next 30 years to about 2 billion.[9] Viewed against this backdrop, the target of achieving a significant improvement in the lives of at least 100 million slum dwellers by 2020, however commendable, is patently inadequate.

Population of slum areas in developing regions, mid-2001

Region	*Total population (millions)*	*Total urban population (millions)*	*Urban population as a percentage of total population*	*Slum population as a percentage of urban population*	*Urban slum population (millions)*
World	6 134	2 923	47.7	31.6	924
Developing regions	4 940	2 022	40.9	43.0	874
Africa	683	307	44.9	60.9	187
Latin America and the Caribbean	527	399	75.8	31.9	128
Asia	3 593	1 313	36.5	42.1	554
Oceania	8	2	26.7	24.1	5
Least developed countries	685	179	26.2	78.2	140

Source: Global Urban Observatory, *Improving the Lives of 100 Million Slum Dwellers: Guide to Monitoring Target 11* (UN-Habitat publication), May 2003, p. 6.

10. Recent studies indicate that slums are expected to continue to grow in almost all regions in the world. Regional trends suggest that Africa, particularly sub-Saharan Africa, Central Asia, particularly the former Soviet republics of Central Asia, and some countries in Latin America, are most likely to see growth in slum settlements. East Asia, on the other hand, is making impressive progress in reducing slums, thanks to a combination of economic growth, targeted slum upgrading and shelter programmes, and poverty reduction policy.[10]

11. Faced with the prospect of further slum expansion, many Governments have recognized the need for policy changes and innovative strategic approaches to shelter provision. On the one hand, there is need for proactive shelter provision policies and programmes that seek to avert further slum growth by encouraging expansion of low-cost housing stock and associated infrastructure in anticipation of rapidly growing demand. Chile and Costa Rica are examples of countries that have

virtually halted slum growth by supporting formal sector supply of low-cost housing close to the rate of new household formation.[11] Apart from the problem of affordability of land for low-cost housing development (addressed below), numerous studies point to the adverse effect of a cumbersome regulatory framework — notably planning and building regulations, zoning restrictions (including on height), standards and administrative procedures — on the cost and speed of expanding formal low-cost housing.[12]

12. On the other hand, slum upgrading and integration have replaced the eradication of slums and relocation of slum dwellers, which has often destroyed large stocks of affordable housing and merely displaced slum dwellers from one informal settlement to another. Investments in shelter and infrastructure and the provision of basic services, including water and sanitation, in combination with measures to secure land and housing tenure for slum dwellers, are at the core of slum upgrading and regularization programmes in many developing countries. In a number of cases, slum upgrading and tenure regularization have been successfully combined with poverty reduction schemes such as employment creation, improved access to credit and community housing initiatives.

13. Several success stories have been recorded: progress in most of North Africa towards improvement of slum settlements; the Tondo Urban Development Project in the Philippines that transformed the largest slum in Manila (and one of the largest in Asia) over a period of 10 years into an upwardly mobile neighbourhood; slum upgrading programmes in several hundred municipalities in Brazil (see box 1); and slum upgrading in Yemen and Jordan, to name just a few.

Box 1

Slum upgrading in Brazil

In Brazil, several hundred municipalities have slum-upgrading programmes, often with some form of land tenure regularization, and with strong emphasis on participatory budgeting and investment planning. For tenure regularization, some municipalities have used an innovative legal instrument called "concession of the real right to use". Settlements granted such rights have had improved access to private and public investment in housing and infrastructure and have become better integrated with adjacent areas.

Source: Report on sustainable human settlements development and management prepared for the twelfth session of the Commission, December 2003, p. 9.

B. Adequate shelter for all

14. Efforts to improve the lives of slum dwellers are part of broader efforts towards adequate shelter for all, which has been recognized as a basic human right. An increasing number of countries have taken steps in this direction, revising national legislation to include provisions concerning the right to housing and translating those provisions into strategies and programmes. Recent years have seen the development of a large number of national shelter strategies and programmes,

with emphasis on slum upgrading, tenure security and the integrated provision of services and infrastructure.

15. A recent UN-Habitat report[13] finds that national housing policies and donor-supported housing programmes are generally neglectful of the role that rental housing can play as a form of affordable shelter for the poor. There is a heavy emphasis in most policies on facilitating home ownership, despite the fact that many families and individuals avail themselves of (or would choose to avail themselves of) rental housing during some part of their life cycle. Rental housing may be especially well-suited to the needs of newly formed households with small children, whose accumulated savings and current savings capacity may be limited. Data compiled by UN-Habitat indicate that rental of housing represents more than half of tenure arrangements in several major cities of North and East Africa, a third or more in several Asian cities and a fifth to a quarter in several major Latin American cities; in major developed country cities it often represents around half of tenure arrangements. Broadening policy would, for instance, involve recognition that, alongside residents of informal settlements, rental tenants may also face insecurity of tenure.

16. In African countries, the right to housing has been reflected in various forms in housing policies or legislation. In South Africa (see box 2) and Namibia, adequate housing has been included in the constitution as a human right. Egypt recently reinforced the rights of individuals and families to adequate housing, secure tenure, and infrastructure and services. In Mali, the protection of tenants from arbitrary eviction is guaranteed by government decree. In addition, many Governments have developed comprehensive national shelter strategies or have revised and strengthened such strategies. Housing policies of some African countries have also addressed gender equality. Chad's national housing policy, for example, has established a 50 per cent access quota for households headed by females to serviced plots.

Box 2
Meeting housing needs in South Africa

South Africa's constitution provides for housing as a right. The country's national shelter strategy specifically targets low-income households by extending subsidies for the purchase of secure plots, installation of water and sanitation services, and construction of a basic shelter. This strategy resulted in the construction of 1.5 million new housing units between 1994 and mid-2003, with a further 300,000 housing units currently under construction.

Source: Report on sustainable human settlements development and management prepared for the twelfth session of the Commission, December 2003, p. 9.

17. Nevertheless, few countries in Africa have been able to implement fully their shelter strategies as planned owing to a lack of resources and capacities, in particular at the local level, and a lack of coordination between the various institutions responsible for shelter. Price increases in the construction sector have also been an obstacle, with formal sector housing affordability, even to the middle class, remaining a key concern.

18. In Latin America and the Caribbean, the right to adequate housing is enshrined in many national constitutions, providing the legal underpinning and framework for addressing this issue through national shelter strategies. National housing policies in the region include a broad spectrum of interventions ranging from legalizing tenure to integrated housing improvement schemes, often with particular subsidy provisions for low-income families. Most countries are also implementing new legislation to improve the situation of homeless people. Legal security for renters is ensured in almost all countries in the region, although "informal" renters remain at high risk of eviction.

19. Despite these efforts, serious housing problems persist in the region, especially among poor people. The supply of public and private housing did not expand substantially in the 1990s. ECLAC has estimated new housing needs at approximately 38 million units. There is also demand for replacement of the existing housing stock, especially of low-income housing. Among poor households, the most widespread problems observed are lack of access to sanitation and drinking water networks and insecure tenure.[10]

20. Most Governments in the Asia-Pacific region recognize housing as an essential right, and a variety of shelter strategies have been adopted. The region has seen some shift in social housing policy towards private sector provision of low-cost housing, with Governments shifting towards an enabling role, promoting public-private partnerships and encouraging the involvement of civil society groups. The Philippines, India, Sri Lanka, the Republic of Korea and Bangladesh, in particular, have substantially increased their emphasis on decentralized private sector delivery. Singapore stands out for its success in using a State-owned company to provide affordable housing to most of the population (see box 3). In some countries, such as Malaysia and Indonesia, the provision of housing is carried out through planning regulation, requiring developers to set aside a proportion of housing units for low-income residents. China's shelter policy, based on housing market reform and social housing construction, has resulted in an improvement in living standards for many people across most income strata. The 1997-1998 economic crisis slowed the strong progress in Asia in the preceding years.

Box 3
Public housing in Singapore

Singapore has been particularly successful in providing mass, affordable public housing. Singapore has entrusted a Housing Development Board (HDB) with extensive powers for all aspects of its public housing programme, including land acquisition, resettlement, town architectural design, engineering work and building-material production, except for the fixing of the sale and rental prices of the housing units, which is undertaken by the Ministry of National Development. To keep the price of housing units well below the market rate, the HDB is supported by public funds, but HDB essentially operates as a private developer. Today 85 per cent of the population lives in publicly supplied housing, up from 20 per cent in the 1960s, and 95 per cent of Singaporeans own their dwellings.

Source: http://tcdc.undp.org/tcdcweb/experiences/vol4/Public%20housing.pdf.

21. While there is growing recognition in the West Asia region that housing is a basic right, that right is still not translated into action in most countries, and poor security of tenure among vulnerable urban residents remains a problem in many countries. Some Governments have undertaken legislative reviews and amended existing legislation or promulgated new legislation in favour of the poor. In the Gulf Cooperation Council area, for example, legislation now guarantees housing for all citizens as well as access to low interest loans and grants for housing construction.[14]

22. The right to housing is recognized in many countries of the ECE region and addressed in most cases under legislation covering real estate, property and housing loans. Housing reforms in the last decade have emphasized market forces and reduced State intervention, resulting in increased private homeownership. State-subsidized rental housing, while declining, continues to play an important role in the ECE region in providing access to reasonably priced housing for low-income people or needy families, through various forms of rental support schemes. The role of civil society, which is traditionally strong in much of the ECE region, is increasingly being recognized in housing-related legislation.

23. Countries with economies in transition are struggling to make housing markets work more effectively and equitably. Housing markets in these countries are becoming increasingly commercialized and social protection has declined. Owing to a lack of tenure security and arrears on housing loans, an increasing number of households in several Eastern European countries are facing the threat of foreclosure or eviction.[15] The pressing issue in this region therefore is to develop government policies to ensure that the private sector fills the demand for new and improved housing, without jeopardizing the housing rights and welfare of the poor and vulnerable and without creating a new class of slum dwellers.

C. Access to land and land use planning

24. Essential to the realization of the right to housing is improving access to land for affordable housing development. Land acquisition costs for building dwellings can often be prohibitive for the landless poor, especially in fast-growing cities. In many instances, land ownership is highly concentrated in private hands, and property development schemes are often targeted at high- and middle-income households, especially in the more accessible locations. Affordable land where low- and moderate-cost housing might be built is often distant from city centres and, without adequate transport links, the residents of such peri-urban communities face long commutes to their jobs. They are also often disconnected from urban infrastructure. Even publicly owned lands in or near city centres may not be readily available for low-cost housing development, as Governments — or specific ministries or public companies controlling those lands — weigh this potential use against more lucrative alternatives. Real estate market speculation — fuelled by rapid urbanization and economic growth and, in some cases, by financial globalization — has intensified pressures in some cities for eviction of squatters from well-located land that was previously of little value.[16] Only a Government strongly committed to a shelter-for-all policy is apt to forego significantly higher return uses in order to provide low-cost housing on such high-value land. A proactive policy of acquiring low-cost land on the urban periphery to set aside for future low-cost housing development is one option Governments may wish to consider.

25. National land use policies of developing countries are often based on the twin goals of promoting geographically balanced urbanization and reducing rural-to-urban migration and the resulting increases in slum populations by improving rural living conditions and promoting rural development. Promising initiatives include regularization of land tenure to provide secure access of rural families to productive land, small-town upgrading programmes such as Botswana's village improvement scheme, and planned peri-urban expansion encouraging the growth of satellite towns beyond traditional city limits, such as has been promoted in some Indian cities. Most countries have established central and local land administrative bodies in both rural and urban areas to carry out responsibilities and functions related to land use planning and the implementation of measures related to land titling and land ownership. Modernizing land administration systems has not always resulted in greater transparency, and many developing countries still lack access to modern technology as a tool for improved land use planning and management, especially at the local level. Land development processes still tend to serve the middle- and higher-income classes, forcing the poor to settle on marginal lands, often in areas at risk from environmental hazards and without access to basic services.

26. To address problems of land access and tenure security, a number of countries in Africa have undertaken formal land titling projects to improve access to land for the poor and to protect land users from unlawful eviction. Mozambique, for example, has implemented a new law that protects communities from being dispossessed of the land on which they have enjoyed traditional customary use. In Benin, a dynamic system of customary tenure has been adapted to urbanization and become partially integrated into formal procedure. Some countries are giving legal recognition to customary tenure systems and control by customary institutions over access to land. On the other hand, difficulties in land tenure regularization arise in some cases when formal legal systems coexist, and sometimes conflict, with customary systems of land ownership — a situation common in Africa.[10]

27. Next to North America, Latin America and the Caribbean is the most urbanized region in the world. Access to land and land use planning are being addressed as part of major reforms in urban development policy aimed at strengthening linkages between urban planning and territorial regulation at the provincial level, integrating housing needs, land use, and infrastructure development. Reform efforts in the region have been translated into a wider range of innovative management approaches and practices, including strategic urban projects, public-private partnerships, participatory budgeting and economic instruments. Some countries have introduced legislation to improve land tenure security. Bolivia, for example, has created a new legal basis for land ownership and land distribution, and Chile has passed a new law on land property rights. However, the scarcity of urban land and the speculative nature of land markets have considerably increased land prices in large cities. Furthermore, high and growing income disparities have exacerbated inequalities in access to land, further marginalizing the poor in urban land markets and effectively condemning them to be perpetual slum dwellers.[17]

28. Access to land for all remains a fundamental goal in almost all countries in Asia and the Pacific. Some Governments address this issue as a priority in policies and legislation on land administration and urban planning. Thailand and Sri Lanka, for example, have implemented land titling and registration projects; Nepal has used leasing arrangements to provide access to land for poor people, the landless, women and tribal people; and the Republic of Korea has revised its inheritance law to

enable women to enjoy equal rights to the inheritance of land. In some small island developing States in the region, the customary nature of the control and ownership of land and the critical role that customary tenure systems have in land and resource conservation are being recognized and taken into account in land use planning and management.

29. Across the ECE region, Governments have improved land administration by creating spatially integrated, efficient markets for housing, land, and public transport. Effective strategies for urban regeneration to create employment opportunities, recycle brown-field sites and improve infrastructure have included new planning models and instruments that address physical deprivation, social exclusion and environmental degradation together.[15]

30. In most countries with economies in transition, Governments have carried out extensive land privatization. In the Russian Federation, for example, over 50 million people and legal entities have acquired private ownership of land. Central and Eastern European countries have adopted strategic regional planning practices, with varying degrees of success. As in other regions, pressure on land due to the scarcity of urban land and the speculative nature of land markets has considerably increased land prices in large cities.

D. Provision of services and infrastructure

31. Recognition of the right to housing and access to land, while essential, will not by itself improve the lives of slum dwellers. To mitigate the crushing impact of poverty and social exclusion and unhealthy living conditions in slums, basic services and infrastructure must be provided, whether through targeted slum upgrading and shelter programmes or as part of urban renewal and development. Typically, these interventions cover connections to water and sanitation facilities, electricity, transportation, telephone, and health and education. However, Governments in developing countries are seriously constrained in the provision of such services and infrastructure by lack of resources. Cities in developed countries on average spend on infrastructure and urban services 32 times as much per person as cities in least developed countries. In slum areas in developing countries, connections to networked infrastructure and services are by and large half of the city average, which are inadequate to start with. Prospective private infrastructure providers are often deterred by insecure property rights of inhabitants and the problems of fee collection. The level of sewerage coverage is particularly low, with only about 7 per cent of households in informal settlements in sub-Saharan Africa and Asia and the Pacific connected to sewer systems. The sewerage coverage for informal settlements in North Africa and the Middle East and Latin American and the Caribbean is about 22 and 30 per cent, respectively.[6]

32. The percentages of households with a piped water connection in informal settlements are slightly better but remain low, ranging from a high of 58 per cent in Latin America and the Caribbean to a low of 19 per cent in sub-Saharan Africa. In between are Asia and the Pacific and North Africa and the Middle East, with 38 and 36 per cent respectively.[6] As in-depth reviews of water and sanitation are made in separate reports, this section focuses on the provision of energy, waste management and transportation services.

1. Access to energy

33. Progress with energy development will be reviewed in detail by the Commission at its fourteenth session, so this section provides only a broad overview of the status of energy access in human settlements, notably in poor communities. Throughout the developing world, efforts are under way to expand electrical grids and to improve access to modern energy services, including in slum areas. In sub-Saharan Africa, only 20 per cent of households in slum areas have access to electricity, while in North Africa and the Middle East, the corresponding figure is 36 per cent. In Asia and the Pacific and Latin America and the Caribbean, households in informal settlements have better access to electricity, with about 76 and 85 per cent of them, respectively, having electrical grid connections.

34. Overall, in the developing world, approximately 1.6 billion people remain without access to electricity, and some 2.4 billion people — more than half the population of developing countries — still rely on traditional biomass fuels (wood, charcoal, animal dung and crop wastes) for cooking and heating, typically in open fires or low-efficiency stoves with inadequate venting. The health implications for the rural poor and slum dwellers often compound their daily struggle. Exposure to biomass smoke increases the risk for a range of common and serious diseases, the most important of which is acute respiratory infections, such as pneumonia. According to WHO, almost 4 million people die every year from acute respiratory infections, with over 90 per cent of the cases occurring in developing countries. While there has been little systematic evaluation of the health impacts of improved cook stove interventions, evidence from several hundred improved cook stove programmes in over 50 developing countries suggests that they are both health-improving and cost-effective.[18]

2. Solid waste management

35. The volume of solid wastes has considerably increased in all regions and their composition has changed with more non-biodegradable waste and an increasing amount of toxic waste. Improperly managed solid wastes can pose a health hazard, particularly in urban areas, as a breeding ground for disease and a source of contamination of water supplies. Uncollected garbage, along with excreta, are often disposed of in drainage ditches, which can become clogged. When wastewater and storm runoff cannot be easily drained, flooding spreads waste and excreta through the surrounding area. Microbial and chemical contamination of water resources often occurs where solid waste disposal is not adequate.

36. A recent UN-Habitat survey of major cities[6] indicates that large sections of the urban population in developing countries, and particularly those living in informal settlements, lack access to an adequate public system of solid waste removal. The survey also shows that larger cities are more likely than smaller and medium-sized ones to be equipped with waste collection and disposal facilities.

37. In most African cities, only 10 to 30 per cent of all household solid wastes are regularly collected, and services are inevitably most deficient for slum dwellers. In the absence of organized waste management systems, some waste collection and recycling is provided by poor people and informal enterprises when it provides an economic opportunity. Organization of these informal activities to improve economic opportunities, expand waste collection and recycling, and reduce health and safety hazards, is a strategy that is increasingly being adopted as part of

municipal waste management programmes, often in cooperation with non-governmental organizations and sometimes with donor funding (see box 4).

Box 4
Waste collection in Dar es Salaam

Faced with the challenge of providing basic services to a rapidly expanding population, the Dar es Salaam City Council in the United Republic of Tanzania opted for involving community groups and microenterprises in citywide solid waste collection. A transparent tender system and community mobilization campaigns were established, and selected groups and companies were provided with technical and business management training. As a result, the city is kept clean and thousands of jobs have been created.

Source: Contribution of ILO to the twelfth session of the Commission.

38. In Latin America and the Caribbean, cities use both sanitary landfills and open dumps to dispose of solid wastes. Only a few countries in the region, notably Brazil, have made advances in reuse, recycling and energy recovery from incineration. Most countries in the region lack infrastructure for environmentally sound disposal of solid wastes, as well as managerial capacity to address solid waste management effectively. Lack of separation of hospital and industrial wastes from household wastes also remains a serious problem. While some countries in the region have adopted laws concerning the control and disposal of hazardous waste, they do not have the facilities to treat, recycle or dispose of them; nor do they have the resources to enforce legal regulations. As a result, a large portion of hazardous waste is illegally dumped, often in the vicinity of slums or in locations where it risks contaminating water supplies.[17]

39. Cities in Asia make greater use of environmentally sound solid waste disposal systems, particularly in the more developed countries of the region, such as Japan and Singapore. Disposal by open-air burning is less common than in African cities. In some West Asian countries, the gradual institutionalization of informal sector activities in solid waste collection and recycling has been accompanied by increasing privatization of solid waste management services. However, the resources allocated to solid waste management remain inadequate, as indicated by country reports from the West Asia region, and national laws, regulations and standards related to the sustainable management of solid wastes need improvement.[14]

40. While some small island developing States have made progress with improving solid waste management policies and practices, many still face considerable difficulties in terms of financial and technical capacity, compounded by a lack of available space for landfills. Waste minimization, recycling and reuse are therefore particularly appropriate strategies for their special circumstances. Growing concern has been raised with regard to the security and environmental implications of the disposal and transport of radioactive materials in the small island developing States regions and through their territorial waters, and the lack of liability and compensation regimes.[19]

41. Western European and North American countries generally have efficient and cost-effective solid waste management systems with increasing emphasis on the three "Rs" — reduction, reuse, and recycling. Some Western European countries use economic incentives such as fees on beverage containers and single-use shopping bags, as well as producer take-back requirements for end-of-life products and packaging regulations. Solid waste management in Eastern European countries continues to be problematic. Recycling practices are at a rudimentary stage, and many cities rely heavily on open landfills, which are often poorly maintained.

3. Implementing sustainable transport solutions

42. Private vehicle ownership is growing rapidly in fast-growing developing countries, posing major challenges to urban transport planners and creating serious pollution and congestion problems. Recent years have seen considerable efforts to develop strategies to integrate transport planning with land use planning and human settlement development. Access to transport services by slum dwellers has improved in some developing countries, facilitating access to employment, health care and other basic services, as well as promoting social interaction.

43. Many cities in Africa are emphasizing affordable and more environment-friendly means of transportation. Egypt, for example, has made large investments in its public subway and bus networks, benefiting slum dwellers, and has also moved to unleaded gasoline. Other countries in the region offer low fares to facilitate access of the poor to public transport. However, overlapping jurisdictional responsibilities among agencies involved in transport planning and urban development continue to plague the sector, aggravated by a sectoral approach taken by many city planners and managers, in which transport is treated as a separate issue rather than an integral part of urban planning and management.

44. In Latin America and the Caribbean, some cities, such as Bogota (see box 5), have developed rapid transit bus systems together with infrastructure to facilitate non-motorized transportation. Brazil has promoted the use of alcohol derived from sugar cane as a transport fuel, contributing to the reduction of carbon dioxide emissions by approximately 16 per cent. Nearly all Latin American countries have plans to eliminate lead from gasoline, but sulphur, particulates and other urban air pollutants remain high in many countries.

Box 5
Sustainable transport solutions in Bogota

Following reorganization of an outdated, polluting and chaotic system of privately run buses into a streamlined network of diesel vehicles compliant with Euro II standards, Bogota's new TransMilenio public transport system began operation in December 2000, including exclusive bus-ways with design features similar to that of an urban rail system. By 2003, the TransMilenio system — operated in cooperation with private bus contractors — was providing more than 540,000 trips a day in Bogota, 9 per cent of which were trips formerly made by car. A 20 per cent petrol surcharge helped the city finance infrastructure investment, while a car tag system was instituted to limit private automobile travel during peak hours. Bogota also developed more than 300 kilometres of protected bicycle paths, and launched a campaign to move cars off sidewalks, returning that space to pedestrians, vulnerable groups and low income households, who rely on those spaces for exercise and leisure.

Source: Colombia country report submitted to the United Nations, 2003.

45. Many Asian countries have implemented measures to reduce transport-related urban air pollution, but problems remain with old vehicle fleets, dirty fuels and traffic congestion, as well as noise. Large investments have been made in public transport, with new or extended mass transit systems opening or under construction, for example in Kuala Lumpur, New Delhi, Manila and Jakarta, providing affordable transportation for low-income people. Some countries in Asia have adopted more stringent environmental standards for new cars as well as cleaner fuels. China, for example, is adopting strict vehicle fuel economy standards to save energy and to encourage a switch to hybrid vehicles. China has also initiated a successful vehicle inspection programme to reduce the environmental impacts from transportation.[16]

46. Industrialized countries of the ECE region have well-developed public transport systems and the use of cleaner fuels in public transport is increasing. Many Western European countries subsidize fares for public transportation, especially for students, the elderly and the disabled. Measures have been undertaken at all levels of government towards linking land use planning and transport planning. Eastern Europe has seen significant growth in private vehicle use, partly as a result of poor and declining standards of municipal transport, and partly as a result of rising incomes.

E. Employment creation and enterprise promotion

47. Provision of basic services and infrastructure to informal settlements — integrating their inhabitants more fully into the urban economy — is essential to improving the living standards of slum dwellers. Sustainable long-term improvement in slum conditions will depend on tackling poverty. This in turn requires the creation of remunerative jobs for low-skilled workers and of an environment conducive to entrepreneurship. Governments in developing countries

are contending with a variety of constraints in job creation and income generation. Lack of entrepreneurial skills and managerial capacity in enterprises — compounded by inadequate infrastructure and an uncertain, overly bureaucratic business environment — continues to limit investment and productivity growth in many countries.

48. In response, many Governments have focused on the role of small enterprises and microenterprises in their employment policies. Promoting self-employment and the informal sector will continue to play an important role in creating employment opportunities, as growth in job opportunities in the formal sector is not expected to match urban population growth.[20] The implementation of credit schemes, including microcredit, for small local businesses and cooperatives is a key component. For Governments, creating both the macroeconomic and regulatory conditions that would encourage a dynamic formal enterprise sector will remain a high priority, not least if Governments are to generate tax revenues to finance essential infrastructure and public services.

49. In Latin America and the Caribbean, Governments have adopted national programmes to provide credit, training and technical support to small enterprises, which often count slum dwellers among their employees. The scope of such programmes remains limited, however, to a small proportion of prospective beneficiaries and additional resources would be needed to cover more enterprises. Such support has strengthened these enterprises as buffers against the social and economic impact of structural adjustments and financial crises on labour and production, though it has not always helped poor people become successful participants and competitors in the formal economy. Some West Asian countries have undertaken initiatives to support micro, small- and medium-sized enterprises through entrepreneurial capacity-building and incubation programmes. Several Governments in Africa, including Kenya, Angola, Guinea and Morocco, are developing or implementing similar microenterprise support policies, some specifically targeting women. In Viet Nam, integrated small enterprise promotion has become the main strategy by which provincial governments are tackling unemployment and poverty reduction. Measures include entrepreneurship training, job quality promotion, association building and market access improvement.

F. Human settlement development in disaster-prone areas

50. Over the past decade, some 200 million people a year have been affected by natural disasters and the impacts have been increasing. In the 1990s, the economic costs of natural disasters were 14 times greater than in the 1950s. For 2002 alone, the occurrence of over 500 disasters was reported, with 25,000 people reported killed, 608 million people affected and costs of about $27 billion in total damages.[21] The location of many human settlements near coasts or on major rivers makes them vulnerable to disasters. Within cities, sub-standard housing, overcrowding and the location of informal settlements on marginal lands make slum dwellers particularly vulnerable.[22]

51. Designing and building hazard-resistant buildings and other structures is among the most cost-effective means of risk reduction. However, owing to the additional costs, buildings and infrastructure are often not built according to codes designed to minimize damage from extreme climatic or natural phenomena.[17] In

informal settlements, enforcement of building codes and zoning laws is unlikely to be effective, especially in the absence of secure tenure arrangements. In the long run, a viable solution to disaster management lies in integrating disaster risk reduction into sustainable shelter planning and human settlement development. Decentralization of authority and resources from central to municipal and local levels is increasing, and municipalities have begun to take a more proactive role in making risk management a priority issue on local human settlement agendas.

52. Disaster mitigation and management can benefit from new information and communication technologies, which have considerably increased the availability of information about natural disasters. Improvements in global observation systems have made possible the early detection of climatic conditions such as El Niño events and are contributing to early warning of other events, including those related to climate change. They are also providing better tools for near-term forecasting and prediction, including seasonal forecasts, and better monitoring and modelling of disaster related factors.

53. Small island developing States remain extremely vulnerable to natural and man-made disasters, and scarce resources continue to be diverted from other social, economic and infrastructure programmes to respond to these disasters. Most small island developing States now have draft disaster management policies and programmes, and some have developed early warning systems and hazard mitigation policies, including national and regional oil spill contingency plans. However, national capacity is unlikely to be sufficient to cope with the increasing frequency of extreme weather events and the costs associated with reconstruction, in spite of the existence of special funds in some countries. There is a need for further resources for the development of national disaster mitigation capacities and the creation of appropriate insurance and reinsurance schemes for small island developing States. Regional disaster-preparedness and risk reduction initiatives include the establishment of the Caribbean Disaster Emergency Response Agency and the Coordination Centre for the Prevention of Natural Disasters in Central America. The forthcoming 10-year review of the implementation of the Barbados Programme of Action for the Sustainable Development of Small Island Developing States will review these issues in detail.

IV. Means of implementation

A. Finance

54. Improving the lives of slum dwellers will contribute to progress in meeting other Millennium Development Goals and time-bound targets and commitments of Agenda 21 and the Johannesburg Summit. The challenge Governments face is a daunting one: simply improving the conditions of 100 million slum dwellers would only amount to a "managed retreat";[23] given the projected growth in urban slum populations over the next few decades, much more is needed to achieve real progress towards sustainable human settlements. The dual challenge facing Governments is to promote a sufficiently rapid expansion of the formal low-cost housing stock to slow and eventually halt slum expansion — Chile, Costa Rica and El Salvador having made substantial progress in this regard — while also facilitating the upgrading of existing slums.[24]

55. While every effort is needed to maximize the efficiency of resource use, the financial resources needed are inevitably going to be very substantial. Providing water, sanitation, electricity, health care, transportation, education and other basic services and infrastructure for rapidly growing numbers of slum dwellers and other urban inhabitants will entail large capital investments. A World Bank estimate based on the situation a decade ago suggests that the total investment required from public and private sources for urban infrastructure is about $150 billion a year.[6] Additional official development assistance will need to flow into human settlements development if there is to be any possibility of meeting the dual challenge.

56. The picture of domestic finance is not altogether reassuring. Governments continue to account for the bulk of urban infrastructure investments. While tax revenues have remained broadly stable as a share of gross domestic product in major developing regions, gross domestic product itself has grown only slowly if at all in many countries — China and India being major exceptions. Decentralization has not always transferred to lower levels of government the revenues — or revenue-raising powers — to perform effectively their new responsibilities. Moreover, despite their heavy infrastructure investment needs, municipal governments have not had ready access to financial markets. Besides underdeveloped domestic capital markets, other obstacles include: municipal governments' lack of a financial track record; investor reluctance to invest long-term when faced with short electoral cycles; inadequate public disclosure guidelines; and a perceived lack of autonomy of municipal government to raise revenues. Despite these factors, municipal bond markets developed briskly during the 1990s in some countries of Latin America and Asia, as well as in some European economies in transition. It is estimated, for instance, that through the 1990s some 52 municipalities and provinces in Latin America accessed capital markets, and the Asian local bond market in the late 1990s was valued at almost half a trillion dollars.[25] International investor interest in such markets remains weak, however.

57. With stagnation in real official development assistance and slow domestic revenue growth during the 1990s, many Governments have looked to private investors to fill part of the financing gap for urban infrastructure. As the companion papers on water and sanitation explain, the experience with private provision of those services has generally not lived up to expectations, with private suppliers still accounting for a small share of the total and private investment trailing off from the late 1990s. A number of countries have also sought to attract private investment into other infrastructure, notably energy, telecommunications and transport. Here again, experience has been mixed. In the first two, technological change has substantially reduced fixed costs and the importance of scale economies, making competitive supply feasible. Strong regulatory frameworks are needed, however, to make competition effective. In the period 1995-2002, the energy sector attracted the largest amount of investment involving private sector partners — some $118 billion in facilities investment — while telecommunications came a close second with $109 billion, and the transport sector attracted $75 billion in projects with private participation (mostly seaports and toll roads, with other types of roads still largely dependent on public investment).[26]

58. With respect to housing finance, in the broadest terms the housing market can be divided into three segments: that portion of households that can access the mortgage market and/or draw upon substantial savings to purchase their own homes; another portion — generally more sizeable in low- and moderate-income

countries — that may be able to finance home purchase but only with an element of government subsidy, whether as a lump-sum grant towards a down payment or as an interest rate subsidy; and a third group of households, generally poor and often living in informal settlements, who are largely excluded from formal housing credit markets and must rely on small-scale credit from informal sources and/or microfinance institutions, to make incremental extensions and improvements to their dwellings. Research on the housing market in three major Brazilian metropolises[27] estimates that, of the 1 million households that enter the market for shelter each year, only 20 per cent can afford to finance down payments out of their own savings and take out mortgages on commercial terms (with monthly payments estimated at greater than 10 times the minimum wage); another 10 to 20 per cent enjoy access to the mortgage market with a government interest rate subsidy; and the remaining 60 to 70 per cent do not enjoy subsidies and simply cannot afford the down payment and monthly instalments of the formal market.

59. Most investment in the housing sector is privately financed,[28] although Governments maintain an important role in some countries in extending affordable housing to low-income households. Besides insecure property rights in many informal settlements, other factors that limit housing affordability include low income relative to the cost of land and construction; high standards and administrative costs of formal sector land subdivision and housing development; high real interest rates in some countries resulting from adverse macroeconomic conditions; and non-competitive financial sectors that face little pressure to lend to low-income borrowers.[11]

60. Low-income households depend to a large extent on informal credit sources, which are often expensive and short term.[29] Restrictions on women's access to land and inheritance rights have often precluded their access to credit.[30] Microcredit institutions — and even some commercial banks — are increasingly lending, often in multiple small tranches, to low-income borrowers for housing improvements (also frequently involving improved water supply and sanitation), which in low-income communities are often incremental, extending over many years through repeat borrowing.[31] The home loans tend to be somewhat larger on average than microenterprise loans and to carry lower interest rates.

61. Some African countries have tried to improve housing finance for poor people through community mortgage programmes and private sector finance. In Latin America and the Caribbean, housing finance schemes have been based on a combination of subsidies, private savings and mortgage loans. These schemes have increased access of low-income groups to housing, in particular in countries with relatively stable economies, but they have not often reached the poorest groups, including slum dwellers. The city of Rio de Janeiro, Brazil, has placed a heavy emphasis on slum upgrading, but the sheer magnitude of the problem poses a major challenge to resource mobilization. Thus far, a half million residents out of a total city slum population estimated at 1.7 million have benefited from the Favela-Bairro neighbourhood improvement programme, at a cost of US$ 600 million, more than half financed by a regional development bank loan. The city plans to invest another US$ 400 million to cover an additional 330 neighbourhoods.[32]

62. In Asia and the Pacific, housing finance is emphasized as one of the fundamental elements of urban development programmes. The Government of China, for instance, is investing roughly $20 billion a year in building housing for

low- and middle-income earners, though concerns have been raised that high-income earners may also be benefiting to some degree from subsidized public housing. With public housing finance institutions constrained by poor repayments, some Governments in the region have encouraged innovative schemes and non-governmental organizations and microfinance institutions have also taken the initiative. For example, in India, non-governmental organizations have set up guarantee programmes with commercial banks for financing housing in poor communities. From 1984 (when its home lending began) to the end of 2002, Bangladesh's Grameen Bank is reported to have disbursed 556,600 housing loans. In the Republic of Korea, the Government has established a framework for secondary mortgage markets to strengthen the commercial mortgage system.[10]

63. Some countries in West Asia have committed public financial resources to improve housing and infrastructure, while gradually but increasingly seeking private investment to supplement limited public financial resources. Financial instruments and mechanisms that have been used by countries in the region include low-interest loans, microfinancing and tax reforms.

64. In countries with economies in transition, private housing developers face financial difficulties, high inflation and lack of access to credit. While in the early reform period high interest rates stymied housing demand, the volume of mortgage lending has increased more recently in some Eastern European countries.[33]

65. In developed countries, incentive schemes have been in place to support public housing. In the United States of America, for example, federal and state governments provide a variety of tax credits and other financial incentives to make low-cost housing more accessible. In Canada, there is public financial support to non-profit borrowers for the development of affordable housing project proposals.

B. Decentralization in decision-making, participation and capacity-building

66. In addition to financial resources, capacity-building is a fundamental underpinning for successful implementation of human settlement policies and programmes. Capacity-building is needed, particularly in developing countries, at three levels that are equally important and mutually reinforcing — individuals, local institutions and the Government.

67. In Africa, most countries have adopted policies and legislation to increase local autonomy in policy-making and implementation. In many instances, provisions have been made to promote the engagement of civil society partners in decision-making, implementation and resource mobilization, for example through legal recognition of non-governmental and community-based organizations and the establishment of consultative mechanisms on urban development policies and programmes. Implementation of these policies and legislation is often slow, however, owing to the reluctance of central administrations to decentralize functions to the local level. Also, decentralization often takes place without adequate provision of the financial resources needed to perform the newly acquired functions at the local level.

68. The decentralization of functions to subnational government entities has proceeded at a fast pace in Latin America and the Caribbean, although there are

significant differences among countries in the degree of decentralization. The division of decision-making authority tends to be complex and often ambiguous. Central Governments often retain control over the allocation of resources for basic services, while the provision of these services is delegated to lower levels of government. Municipal governments and local authorities tend to depend heavily upon central Government transfers to finance the functions delegated to them, as locally generated funds are quite limited.

69. In Asia and the Pacific, policy changes to decentralize planning and administrative and decision-making power to local levels have been introduced into national legislation. Laws and regulations have been adopted governing the division of responsibilities and functions among central and local governing bodies in areas such as land use planning and management, urban development, infrastructure development, and provision of shelter and services. Decentralization is also gaining momentum in some West Asian countries, notably Saudi Arabia and the Syrian Arab Republic, strengthening local responsibility for development planning and implementation. However, while the legal and institutional framework is gradually strengthening, implementation and enforcement lag behind.[14]

Box 6
Civil society participation in India

In India, the role of non-governmental groups in shelter provision and development of community infrastructure is increasing, including through microcredit schemes for housing construction. Government programmes like the National Slum Development Programme and Swarn Jayanti Shahri Rozgar Yojana emphasize community-based thrift and credit societies.

Source: Report on sustainable human settlements development and management prepared for the twelfth session of the Commission, December 2003, p. 10.

70. All developed countries have strong central administrative bodies, such as ministries of housing, with responsibility for ensuring that housing and urban development policies are consistent with other national socio-economic and environmental policies, and also for allocating financial and other resources to local authorities. Based on a decentralized administrative structure, the main responsibilities and functions with regard to the planning, development and management of human settlements rest with provincial governments and local authorities. In Central and Eastern Europe, most countries have moved to decentralize political and administrative power, while in Commonwealth of Independent States countries, progress in structural adjustment and political reform has been slow and uneven.

V. Lessons learned and continuing challenges

71. Poverty consigns hundreds of millions of people in the developing world to harsh living conditions in urban slums, with inadequate shelter, poor water, sanitation and other infrastructure, high rates of unemployment, widespread disease

and physical insecurity. In many such communities, insecurity of land title limits capacity for financing upgrading of both housing stock and infrastructure. Even as Governments seek to improve the living conditions of the roughly 900 million people already estimated to reside in slums, they face the further challenge of securing the provision of affordable, decent shelter to the many million more low-income households that will be formed in urban areas over the coming decades. In short, they need to create a policy and institutional environment conducive to providing adequate shelter, infrastructure and services to an average 70 million new urban residents worldwide each year over the next 15 years — almost all in developing countries.[34]

Access to land, land-use planning, and tenure security

72. Securing access to land for affordable housing development poses a major challenge in many major cities of the developing world. Especially but not only where financial markets are underdeveloped, real estate can be among the few high-yield domestic investments, and expectations about future land price inflation can dampen considerably land market turnover. For those poor urban households not already possessing land, gaining access to it legally can prove unaffordable. Where Government does not itself control substantial land that can be used for housing development, high land acquisition costs also limit its capacity to provide low-cost housing. Urban land tenure reform is generally not addressed as an integral element of government measures to promote equitable access to land for human settlement development. Meanwhile, excessive regulation of land use can pose an obstacle to low-cost housing development.

73. For those living in urban or peri-urban informal settlements, lack of land titles and insecurity of land tenure are significant obstacles to financing improvements both in the housing stock per se and in the supporting infrastructure. Thus, much emphasis has been given in recent years to title regularization as part of slum upgrading programmes.

Provision of shelter, associated infrastructure and access to employment

74. The integrated provision of housing, infrastructure and services, with particular attention to slum dwellers, requires a strong commitment by central Governments and local authorities with strong community participation. While the main thrust of strategies is likely to favour home ownership, recent research stresses the important supporting role that expansion of affordable rental units can play in satisfying growing housing demand. There has been a noticeable trend towards privatization of the housing stock, especially in the countries with economies in transition, mostly through sale of rental units to their occupants. While this has significantly boosted home ownership in the short run, the long-term effects of privatization on the housing market, and in particular on housing affordability to the poor, are still not well researched.

75. To ameliorate conditions in existing slums, improvements to in situ infrastructure and services would need to be accompanied by stronger links — notably via efficient mass transit — of slum communities to the wider urban economy and, in particular, to centres of commercial and industrial activity. Without reasonably steady jobs and income, the residents of those communities will find sustained improvements in their living conditions elusive.

76. A policy and institutional environment conducive to new business formation, including an accommodating credit market, low minimum capital requirements, and ease of registration, can make a major contribution to employment generation, helping to lift slum dwellers out of the poverty trap. Rising real earnings in turn create an environment conducive to financing medium-term investments, for example, in major housing improvements. Ensuring continued adaptability in dynamic factor and product markets, not least through the ability to utilize new technologies, requires a commitment to education and training.

77. While urban dwellers generally enjoy far easier access to electricity and other modern energy services than do rural populations, biomass use for cooking and heating is still widespread in many cities of the developing world. High population densities ensure that the severe indoor air pollution problems associated with this type of fuel translate into severe outdoor air pollution as well, with widespread health consequences, especially for the poor who do not live, travel and work in air-conditioned environments.

78. Given the importance of transport as a vital component in the effective and efficient function of human settlements and from the many experiences cited, a continuous challenge to planners is to adopt a more integrated approach to transport planning, land use planning and human settlements development than hitherto. While the scope, scale and cost of transport infrastructure requires national planning and financial support, economic sustainability dictates that urban transport be operated, managed and regulated at the local level, and that there be local-level involvement in transport planning decisions. A major issue of concern for the foreseeable future remains the rapidly growing use of private vehicles among the middle- and upper-income groups in developing countries and countries with economies in transition as a preferred mode of local transport, with concomitant increases in air pollution, noise, traffic congestion and traffic-related accidents.

Limiting exposure of human settlements to environmental and natural disaster risks

79. Lack of infrastructure and institutional capacity to address solid waste management in an effective, efficient and environmentally sound manner and improper disposal of solid wastes, including hazardous waste, are major and growing problems for most cities in developing regions. As countries grow richer, solid waste volumes rise correspondingly, posing a disposal problem especially in areas where landfill sites consume scarce land. Facilities for safe incineration, meanwhile, require major investments. With industrialization also comes increasing volumes of hazardous waste. Urban poor communities are frequently situated in areas where the risk of human exposure to such waste as well as to accidents involving toxic chemical releases is relatively high. In many low- and middle-income countries, there is still no proper infrastructure for hazardous waste disposal, and policies to promote waste minimization and materials recycling are also often rudimentary.

80. The urban poor are frequently the most vulnerable to natural disaster risk, often inhabiting lands that are considered marginal by commercial developers, such as steep hillsides and river banks. Effective disaster mitigation and management requires integration of disaster risk reduction, including construction standards with effective enforcement, into sustainable shelter strategies and urban planning, as well as disaster preparedness systems.

Means of implementation

81. Provincial and municipal governments share with national Governments a significant part of the financing of infrastructure to support sustainable human settlements. While mechanisms for revenue sharing with the central government are generally in place, increased decentralization of governance structures has not always been accompanied by commensurate decentralization of revenue generation authority and/or augmentation of resource transfers. Local-level governments in Asia and Latin America have begun to make use of capital markets to raise revenue, but this source of funds is still rather limited even there and altogether lacking in many developing countries.

82. Without strong domestic economic growth and job creation, coupled with substantial resource flows to developing countries, financial constraints will remain a major impediment to improving the lives of slum dwellers and providing shelter and basic services for all. Achieving substantial improvements in the numbers of people with access to water and sanitation, energy and transport services requires significant public investment as well as continued involvement of the private sector and other non-governmental actors, in particular at the local level.

83. While building new housing stock is an activity that can be left largely to the private sector, governments still need to be concerned about the affordability of housing to the poor and those on moderate incomes. Mortgage interest rate subsidies (which are widely used even in developed countries) may be one effective means of encouraging broader home ownership. Lump-sum government grants to cover a portion of the housing costs of low-income households may be another. Measures are also needed to encourage expansion of the low- to moderately priced housing stock if upward pressures on housing prices are to be held in check.

84. The poor need to able to find housing finance that is tailored to their specific requirements, notably to make incremental housing improvements through repeat small-scale borrowing. Microfinance institutions are increasingly responding to this demand, but innovative approaches are needed to stimulate such lending by other financial institutions.

85. Strengthening the capacities of local authorities and other local stakeholders remains a continuing challenge in developing countries, given the complexity of the tasks that municipalities face with regard to land use management, infrastructure development and the provision of shelter and services.

Notes

[1] *Report of the United Nations Conference on Environment and Development, Rio de Janeiro, 3-14 June 1992* (United Nations publication, Sales No. E.93.I.8 and corrigenda), vol. I: *Resolutions adopted by the Conference*, resolution 1, annex II.

[2] Resolution S-19/2, annex.

[3] *Report of the World Summit on Sustainable Development, Johannesburg, South Africa, 26 August-4 September 2002* (United Nations publication, Sales No. E.03.II.A.1 and corrigendum), chap. I, resolution 2, annex.

[4] Programme of Action for the Sustainable Development of Small Island Developing States (*Report of the Global Conference on the Sustainable Development of Small Island Developing States, Bridgetown, Barbados, 25 April-6 May 1994* (United Nations publication, Sales No. E.94.I.18 and corrigenda), chap. I, resolution 1, annex II).

[5] *World Population Prospects: The 2002 Revision*, 2003, and *World Urbanization Prospects: The 2001 Revision* (United Nations publications, 2002).

[6] *The Challenge of Slums: Global Report on Human Settlements 2003* (UN-Habitat publication, Sales No. 04.III.Q.1), 6 October 2003.

[7] *Global Environmental Outlook 3* (UNEP publication, 2002, p. 240).

[8] While there is still no internationally accepted definition of a slum, in November 2002 an expert group meeting in Nairobi agreed on a generic definition and recommended its use in assessing progress towards target 11 of the Millennium Development Goals on slum dwellers; in this definition, slums are characterized by: insecure residential status; inadequate access to safe water; inadequate access to sanitation and other infrastructure; poor structural quality of housing; and overcrowding. See Global Urban Observatory, *Improving the Lives of 100 Million Slum Dwellers: Guide to Monitoring Target 11* (UN-Habitat publication, May 2003, p. 6).

[9] Global Urban Observatory, *Slums of the World: The Face of Urban Poverty in the New Millennium?* (UN-Habitat publication, 2003).

[10] *Report on sustainable human settlements development and management*, prepared for the twelfth session of the Commission, December 2003.

[11] B. Ferguson and J. Navarette, "A financial framework for reducing slums: lessons from experience in Latin America", *Environment and Urbanization* (International Institute for Environment and Development publication), vol. 15, No. 2, October 2003.

[12] See, e.g., Geoffrey Payne, "Getting ahead of the game: A twin track approach to improving existing slums and reducing the need for future slums", paper presented at the Second World Bank Urban Research Symposium: Urban Development for Economic Growth and Poverty Reduction, 15-17 December 2003.

[13] *Rental housing: an essential option for the urban poor in developing countries* (UN-Habitat publication), 2003.

[14] *Arab Region State of Implementation Report on Human Settlements for the Twelfth Session of the Commission on Sustainable Development* (ESCWA publication, October 2003).

[15] Background paper on human settlements prepared for the twelfth session of the Commission (ECE publication), November 2003.

[16] *Cities in a Globalizing World: Global Report on Human Settlements 2001* (UN-Habitat publication), 2001.

[17] *Latin America and the Caribbean Preparatory Process for the Twelfth Session of the Commission on Sustainabl Development: Sustainable Human Settlements Development*, (ECLAC document LC/IN.139), 4 December 2003.

[18] Background paper on health and human settlements prepared for the twelfth session of the Commission, (WHO publication), November 2003.

[19] Draft summary report of regional preparatory meetings of the small island developing States prepared for the 10-year review of the implementation of the Barbados Programme of Action for the Sustainable Development of small island developing States, December 2003.

[20] Background paper on employment and human settlements prepared for the twelfth session of the Commission (ILO publication), October 2003.

[21] *World Disaster Report 2003* (International Federation of Red Cross and Red Crescent Societies publication), 2003.

[22] Somewhat ironically, natural disaster risk in high-income countries can be more equitably shared (or even biased towards higher-income households), as the same sorts of vulnerable properties — steep hillsides, river banks, seashores — become prime residential real estate for the wealthy. Naturally, higher construction standards limit to some extent the risks to th.. rich.

[23] The term comes from Geoffrey Payne, "Getting ahead of the game: A twin track approach to improving existing slums and reducing the need for future slums", paper presented at the Second World Bank Urban Research Symposium: Urban Development for Economic Growth and Poverty Reduction, 15-17 December 2003.

[24] There is some evidence to suggest that encouraging formal sector investment in new affordable housing developments is apt to be substantially less costly to Governments than dealing with slum upgrading after the fact. For instance, a city housing agency in Bogota estimates that, after land costs, the basic infrastructure package for upgrading informal settlements costs three times that of formal sector development. In addition to infrastructure costs, the Government must reorder settlements by straightening roads, leaving space for communal facilities, and thus relocating a portion of households: 2000 study by the Alcaldia Mayor de Bogota, cited in B. Ferguson and J. Navarette, "A financial framework for reducing slums: lessons from experience in Latin America", *Environment and Urbanization*, (International Institute for Environment and Development publication), vol. 15, No. 2, October 2003.

[25] *World Development Report 1999/2000* (World Bank publication, 1999).

[26] Data are from the World Bank's Private Participation in Infrastructure Project Database: http://rru.worldbank.org/PPI/reports/AggregateReport.asp?report=106.

[27] V. Serra, D. Dowall, and D. Motta, "An Empirical Study of Land Markets and Land Policy in Three Brazilian Metropolitan Areas", presented at the second World Bank Urban Research Symposium: Urban Development for Economic Growth and Urban Poverty Reduction, 16 December 2003.

[28] Overseas remittances can also be an important source of housing finance in some countries (although not necessarily for the poorest).

[29] In countries with large inflows of overseas workers' remittances, these can be a significant, low-cost source of finance for home improvements.

[30] *Sustainable Development in a Dynamic World: World Development Report 2003* (World Bank publication), 2003, p.10.

[31] See M. Malhotra, "Financing her home, one wall at a time", *Environment and Urbanization* (International Institute for Environment and Development publication), vol. 15, No. 2, October 2003. See also the five case studies of microfinance lending for housing improvements at: http://www.citiesalliance.org/citiesalliancehomepage.nsf/Attachments/synthesis+civis/$File/Synthesis+CIVIS+April03.pdf.

[32] See http://www.citymayors.com/report/rio_favelas.html.

[33] Background report on human settlements prepared by ECE for the twelfth session of the Commission, October 2003.

[34] Based on projections in *World Urbanization Prospects: The 2001 Revision* (ESA/P/WP.173).